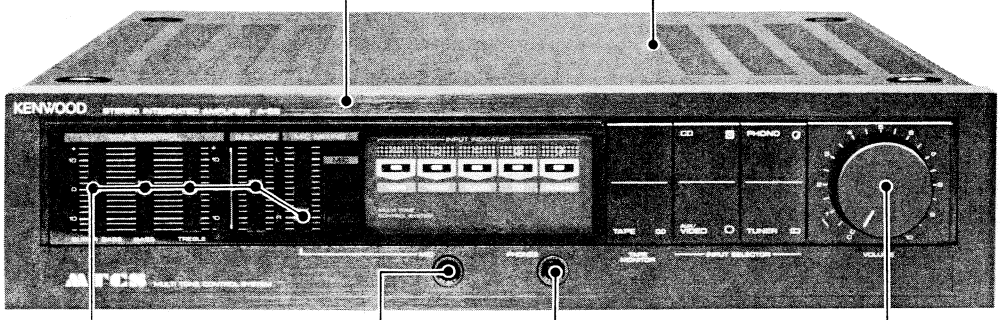
RXB
432

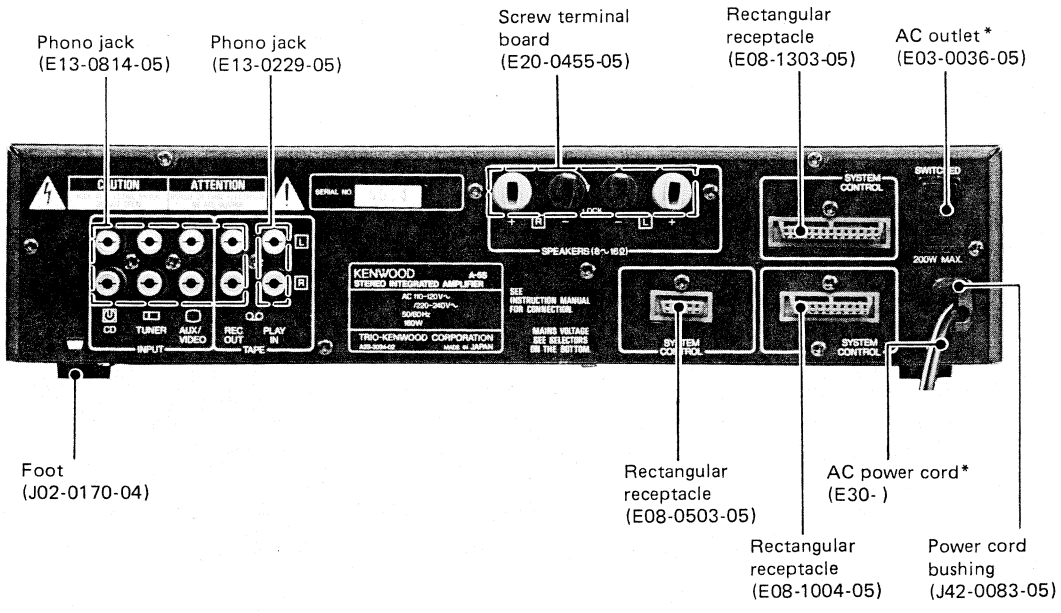
SERVICE MANUAL

KENWOOD

A-5S

STEREO INTEGRATED AMPLIFIER





Caution When a repair to MIDI M-3S is requested, be sure to advise the customer to ship together with amplifier A-5S.

* Refer to parts list on page 6.

CAUTION/DISASSEMBLY FOR REPAIR

PRECAUTIONS FOR REPAIR

MIDI M-3S has a power supply unit only in amplifier A-5S and power transformers are not incorporated in other sets (tuner, cassette tape deck, etc.). At the occasion of repair to a set that is other than the amplifier, use the power supply unit of amplifier A-5S, and supply power to another set using a system control connection cord.

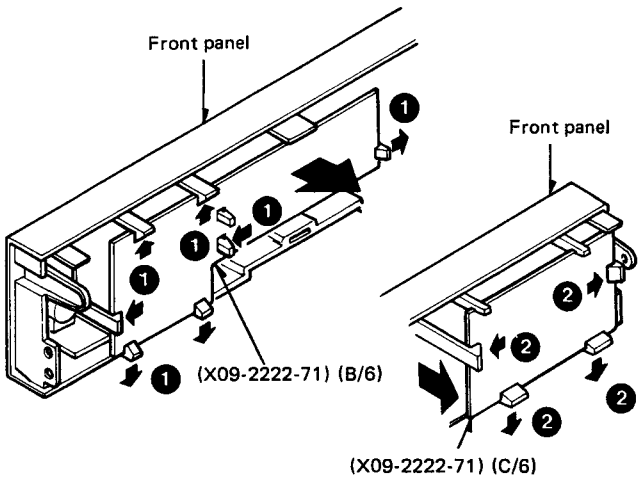
The combination of MIDI M-3S is as follows. When a repair to MIDI M-3S is requested, be sure to advise the customer to ship together with amplifier A-5S.

System name	Amplifier	Tuner	Cassette tape deck	Turntable
MIDI M-3S	A-5S	T-3S/T-3LS	X-3WS	P-3S

DISASSEMBLY FOR REPAIR

REMOVING THE PC BOARD (X09-2222-71) (B/6)

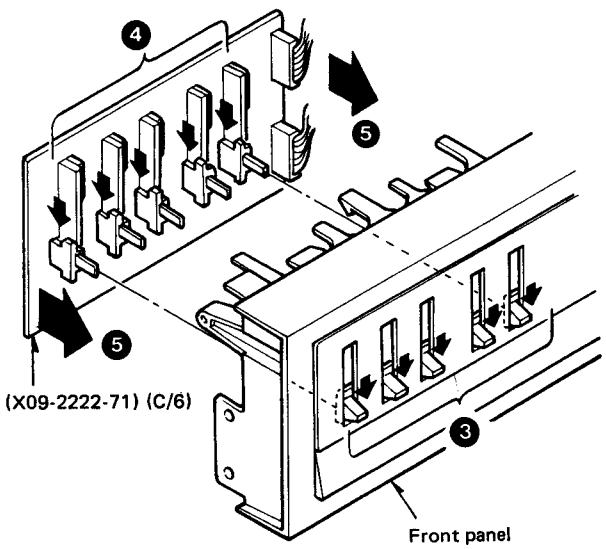
- Pressing the pawls of the front panel which are securing the PC board in the directions of arrows, remove the PC board (❶).



REMOVING AND REINSTALLING THE TONE UNIT (X09-2222-71) (C/6)

1. Pressing the pawls of the front panel which are securing the PC board in the directions of arrows, remove the PC board (❷).
2. When reinstalling the PC board, lower each knob on the panel side to the lowest position (❸), and move the shaft of each slide variable resistor to the lowest position (❹). Press the PC board horizontally from the rear of the panel so that the pawls will catch it (❺).

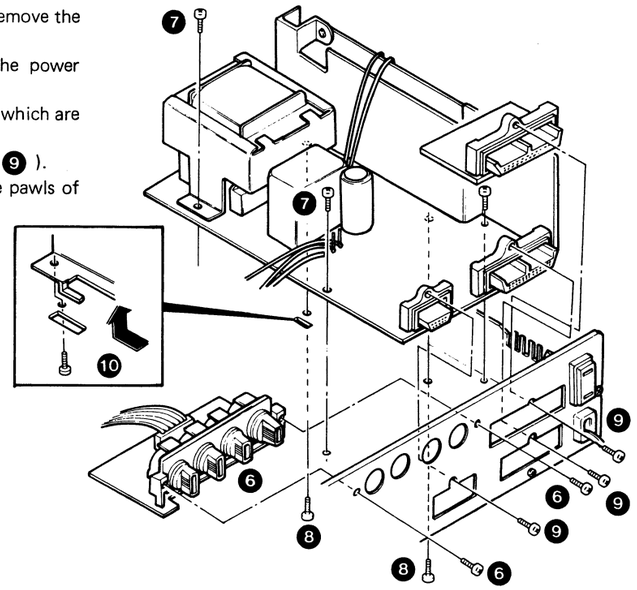
- After reinstalling the PC board, confirm that the shafts of all the slide variable resistors are fixed to the knobs.



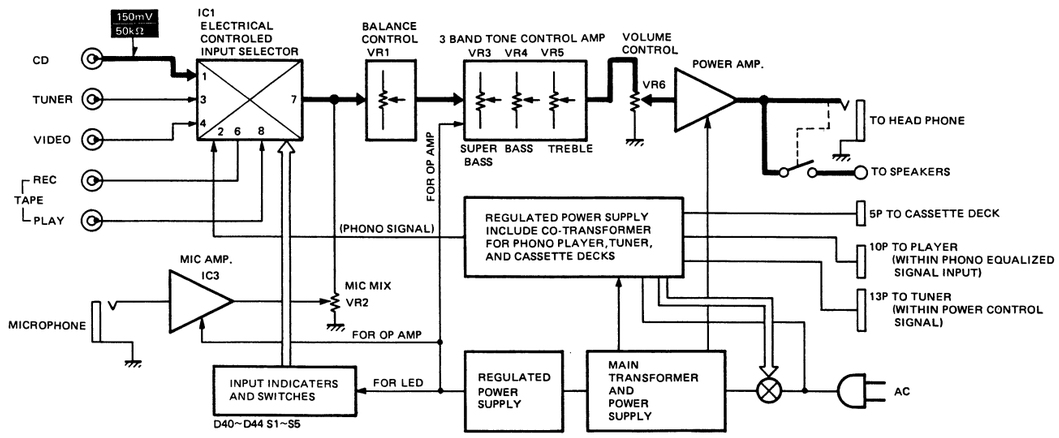
DISASSEMBLY FOR REPAIR/BLOCK LEVEL DIAGRAM

REMOVING THE POWER SUPPLY

1. Remove the two screws from the rear side to remove the speaker terminal unit (❻).
2. Remove the two screws from the top of the power supply (❼).
3. Remove the two screws from the bottom plate which are securing the radiator panel (❽).
4. Remove the three screws from the rear panel (❾).
5. Lift the power supply paying attention to the pawls of the radiator panel (❿).



BLOCK LEVEL DIAGRAM



CIRCUIT DESCRIPTION/ADJUSTMENT/REGLAGE/ABGLEICH

Description of Components

POWER SUPPLY UNIT (X00-2372-71)

Components	Application/function	Operation/condition/compatibility
Q1	Power relay drive	Tr switch that allows flow of coil current of relay K1 when ON.
Q2	Error amplification for + 16V	Controls Q3, Q4 by reference voltage based on D12.
Q3	+16V constant voltage power supply	Darlington connection with Q4.
Q4	+16V constant voltage power supply	Darlington connection with Q3.
Q5	–16V constant voltage power supply	
IC1	+5V constant voltage power supply	3-terminal regulator, 5V

AUDIO UNIT (X09-2222-71)

Components	Application/function	Operation/condition/compatibility
Q1,Q2	Muting	Controls with IC1. Shorts input unit of main amplifier.
Q3,Q4	For bias current	For Q9~Q12 bias current.
Q5~Q8	Current driver	Main amplifier current amplifier unit.
Q9~Q12	Emitter follower	Main amplifier current amplifier unit.
Q13	+ B power supply for A class	
Q16	+16V constant voltage	
IC1	Input selector	Electronic input selection. Used at ±16V.
IC2	Tone control amplifier	Used at ±16V.
IC3	Microphone amplifier	Used at ±16V.

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
Set the controls and switches as follows: POWER: ON							
1	IDLE CURRENT	–	Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	* R45,49 (L) R46,50 (R)	5mV~40mV	(a)

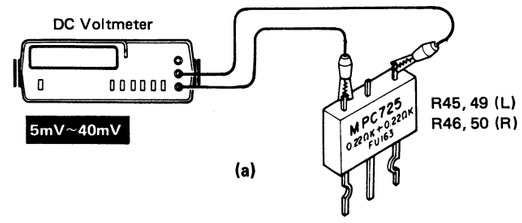
*If meter reads is high, cut resistor R49(R50)
If meter reads is low, cut resistor R45(R46)

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINS L'ALIGNEMENT	ALIGNER POUR	FIG.
Régler les controles et les boutons comme suit: POWER: ON							
1	COURANT DE POLARISATION	–	Connecter un voltmètre de CC sur CP1 (G) CP2 (D)	VOLUME: 0	R45,49 (G) R46,50 (D)	5mV~40mV	(a)

ABGLEICH

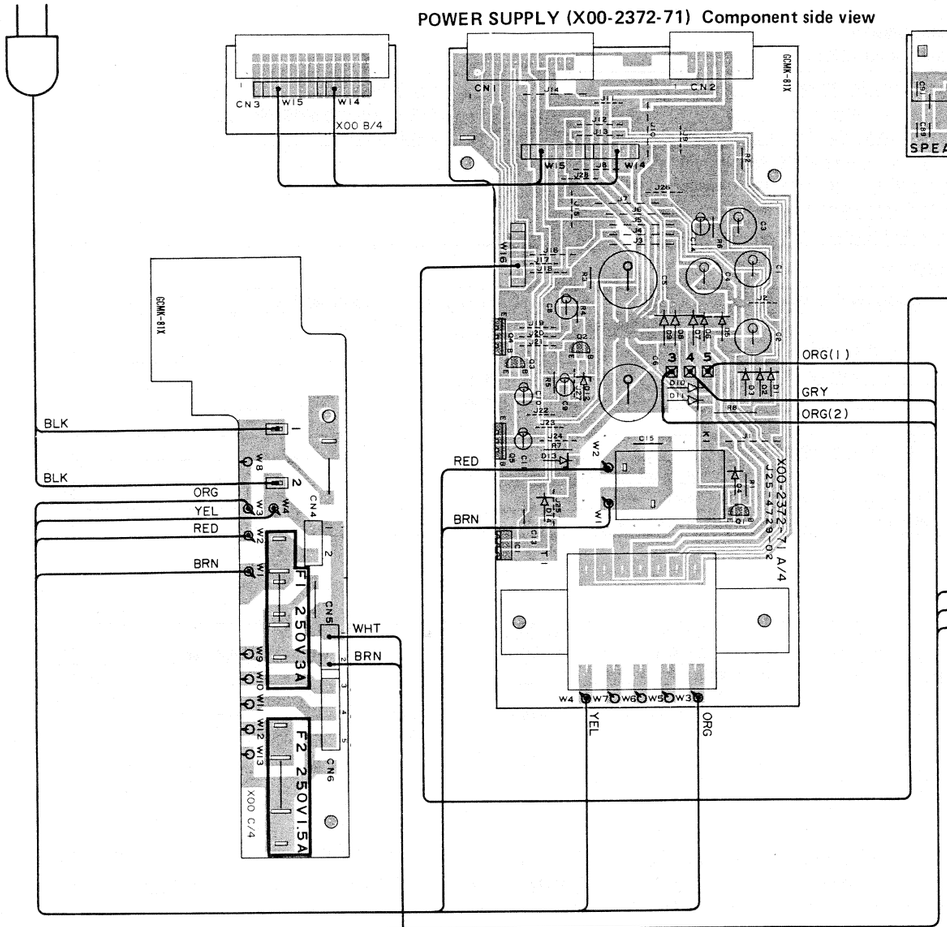
NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	VORSTÄRKER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
Die Regler und Knöpfe wird folgt einstellen: POWER: ON							
1	LEERLAUFSTROM	–	Einen Gleichspannungs-messer über CP1 (L) CP2 (R) anschließen	VOLUME: 0	R45,49 (L) R46,50 (R)	5mV~40mV	(a)



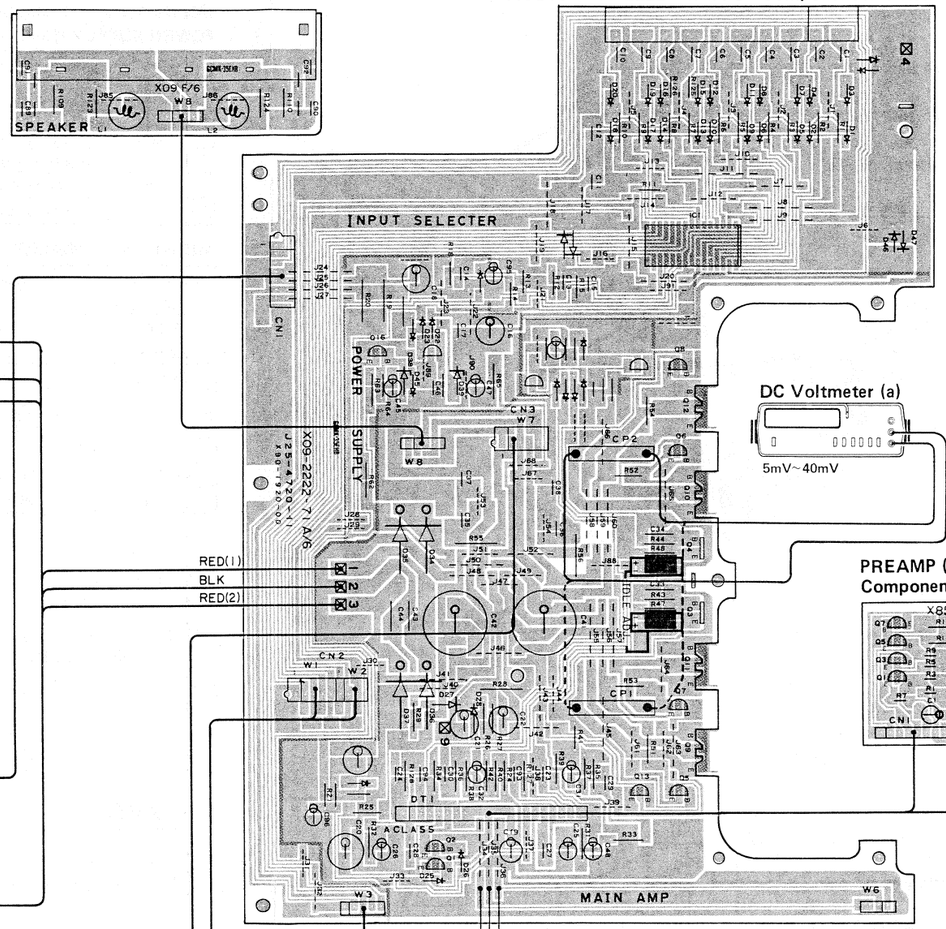
A-5S A-5S

PC BOARD

POWER SUPPLY (X00-2372-71) Component side view



AUDIO (X09-2222-71) (A/6) Component side view



DC Voltmeter (a)

PREAMP (X85-1040-10)
Component side view

(X00-2372-71)

	B	C	E
Q1	0.6V	–	0V
Q2	16V	–	–
Q4	–	–	16V
Q5	–	–	–14V
	I	O	G
IC1	5V	10V	–

(X09-2222-71)

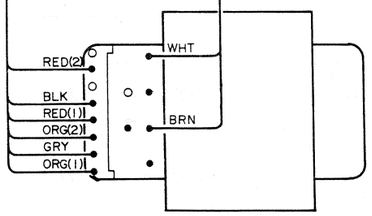
	B	C	E
Q1,Q2	0V	0V	0V
Q3,Q4	0.6V	1.2V	–1.2V
Q5,Q6	1.2V	35V	0.6V
Q7,Q8	–1.2V	–35V	–0.6V
Q9,Q10	0.6V	35V	0V
Q11,Q12	–0.6V	–35V	0V
Q13	34V	35V	33V
Q16	20V	17V	16V

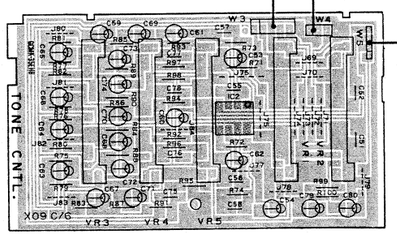
IC1

1	0V	16	0V
2	0V	17	–
3	0V	18	16V
4	0V	19	8V
5	–	20	–
6	0V	21	0V
7	0V	22	16V
8	0V	23	0V
9	–16V	24	0V
10	–	25	0V
11	–	26	–
12	–	27	0V
13	–	28	0V
14	–	29	0V
15	–	30	0V

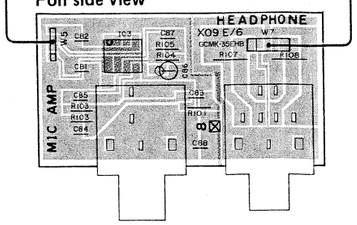
IC2,IC3

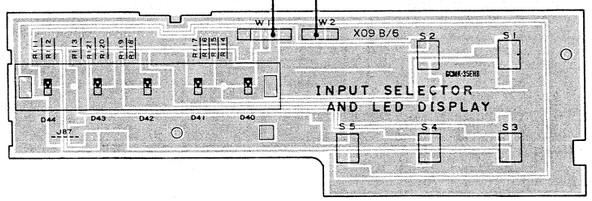
1	0V	5	0V
2	0V	6	0V
3	0V	7	0V
4	–16V	8	16V

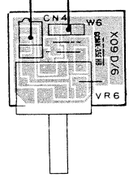




AUDIO (X09-2222-71) (E/6)
Foil side view







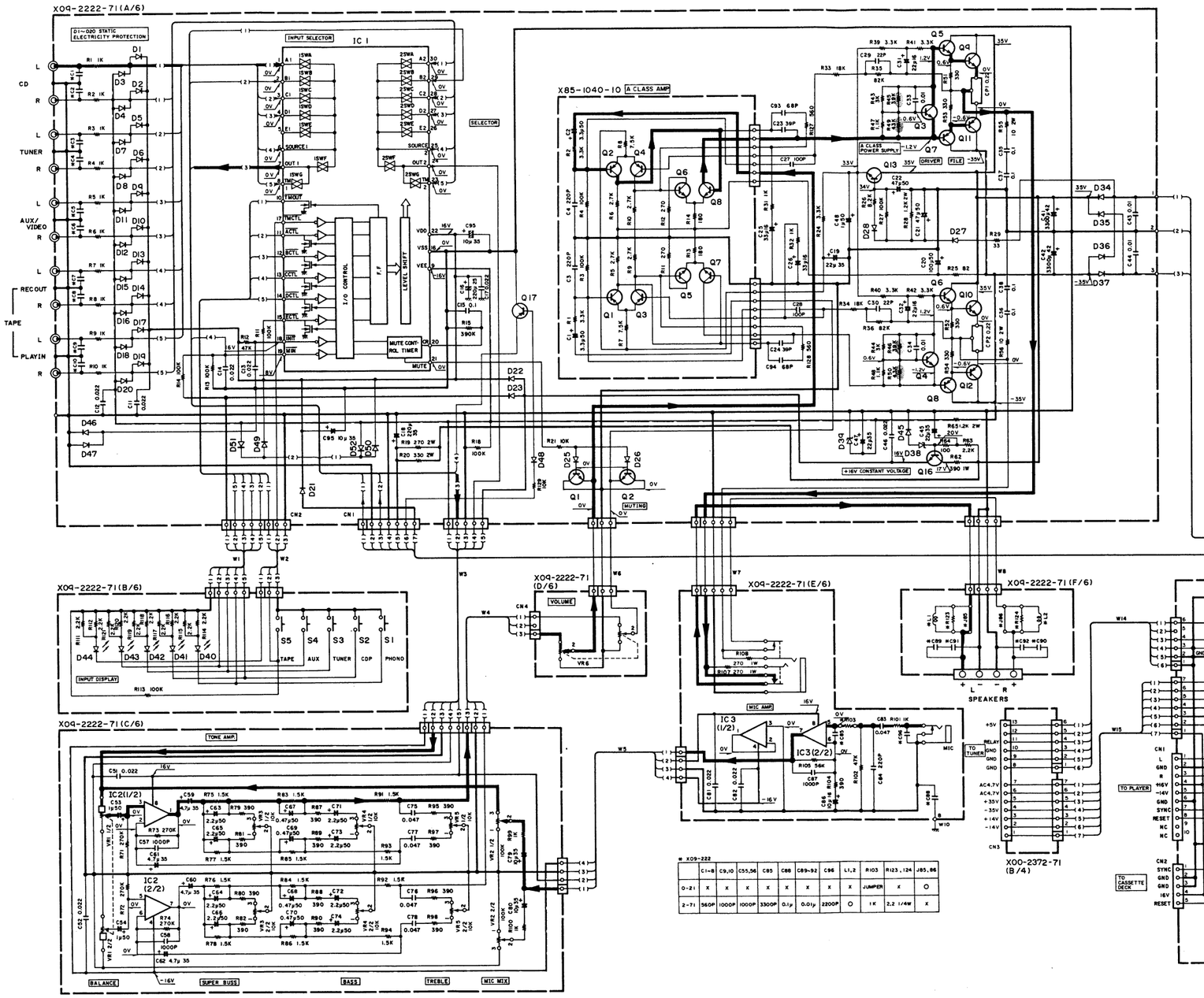
FRONT

Refer to the schematic diagram for the values of resistors and capacitors.

IDLE CURRENT ADJUSTMENT

If meter reads is high, cut resistor R49 (R50).
If meter reads is low, cut resistor R45 (R46).

- DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

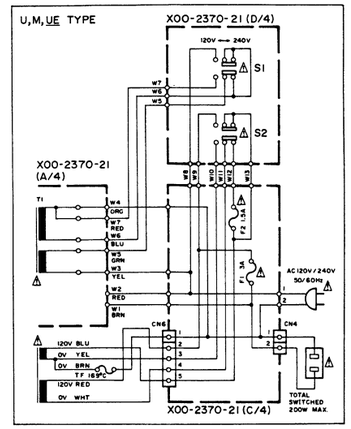


X09-222	C1~8	C9,10	C55,56	C85	C88	C89~92	C96	L1,2	R103	R123,124	J85,86
0-21	X	X	X	X	X	X	X	X	JUMPER	X	O
2-71	560P	1000P	1000P	3300P	0.1μ	0.01μ	2200P	O	1K	2.2 1/4W	X

X09-2222-71
Q1,2,13 : 2SC2320(E,F)
Q3,4 : 2SC945(A)(Q)
Q5,6 : 2SC2003(L,K)
Q7,8 : 2SA954(L,K)
Q9,10 : 2SC1985(O,P,Y)
Q11,12 : 2SA770(O,P,Y)
Q16 : 2SC2060
Q17 : 2SA733(A)(Q,P)
D1-23,25,26,45-52 : ISS133 or ISS176
D27 : DSM1AI
D28 : ISS13 or ISS178
D34~37 : S3V20
D38,39 : RD16E(B2)
D40~44 : B30-0431-05
IC1 : LC7818
IC2 : UPC4570C or NJM2068D-D
IC3 : AN6556

X85-1040-10
Q1~4 : 2SA992(F,E)
Q5~8 : 2SC1845(F,E)

U,M,UE TYPE



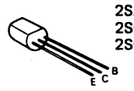
X00-2372-71
Q1~3 : 2SC2320(E,F)
Q4 : 2SC2167
Q5 : 2SA957

D1,3~11 : DSM1AI
D12,13 : RD16E(B2)
D14,15 : ISS133 or ISS176

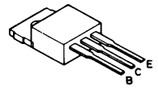
IC1 : μPC78L05

A-5S(E)

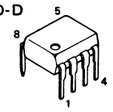
2SA733 2SC2003
2SA954 2SC2060
2SA992 2SC2320
2SC1845 2SC945



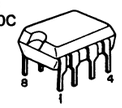
2SA770
2SA957
2SC1985
2SC2167



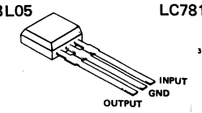
NJM2068D-D



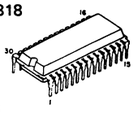
AN6556
μPC4570C



μPC78L05



LC7818

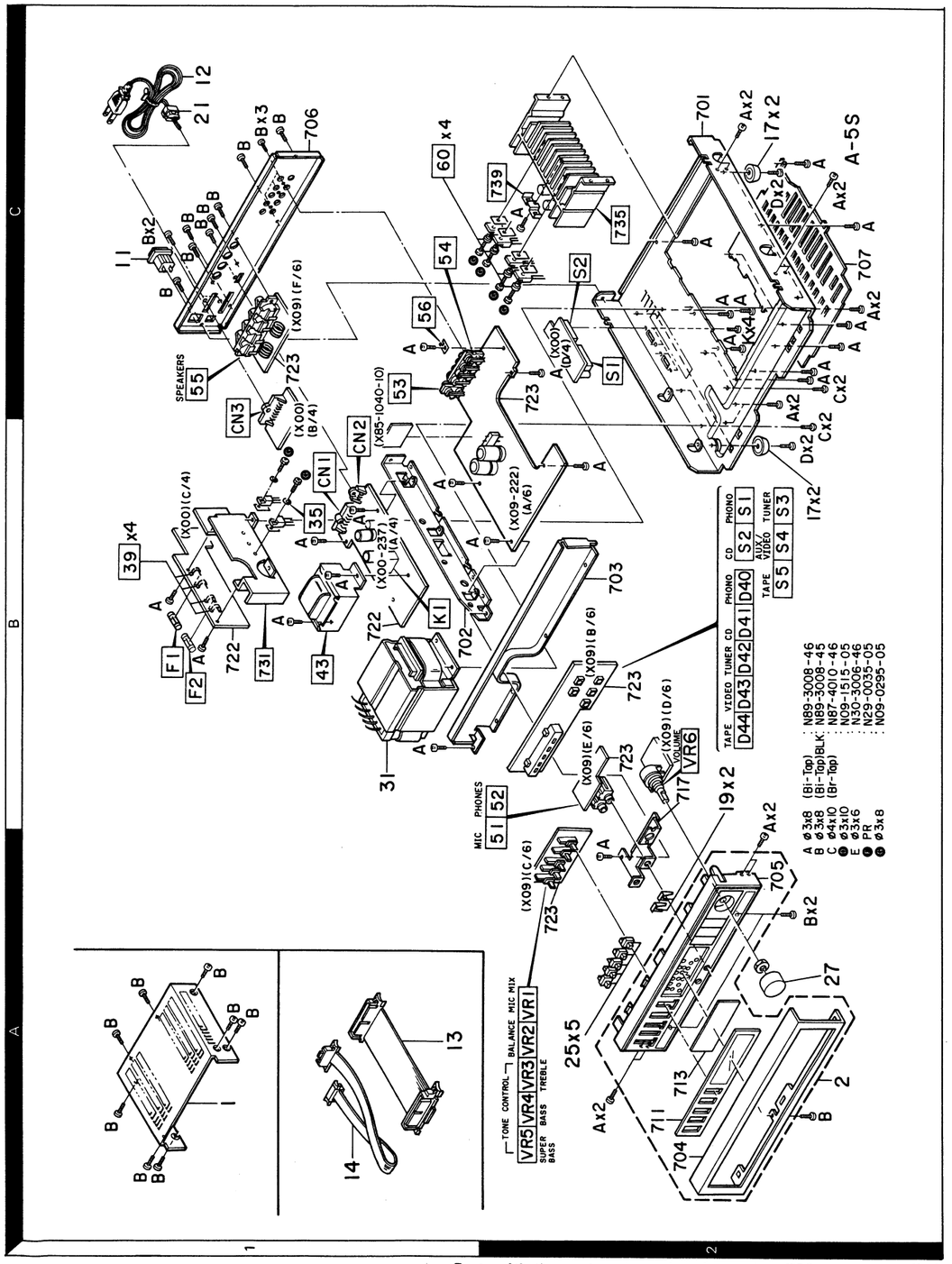


CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

A-5S

KENWOOD

EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Telle ohne **Parts No.** werden nicht geliefert.

	Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
				A-5S			
	1	1A		A01-1441-01	METALLIC CABINET		
	2	2A	*	A22-0549-03	SUB PANEL ASSY	UMUEE	
	2	2A	*	A22-0550-03	SUB PANEL ASSY	T	
	-			B46-0094-03	WARRANTY CARD	UUE	
	-			B46-0095-03	WARRANTY CARD	UUE	
	-			B46-0122-13	WARRANTY CARD	E	
	-			B46-0123-03	WARRANTY CARD	T	
	-		*	B50-6067-00	INSTRUCTION MANUAL(ENGLISH)	UMUEE	
	-		*	B50-6068-00	INSTRUCTION MANUAL(ENGLISH)	T	
	-		*	B50-6069-00	INSTRUCTION MANUAL(G,D,I)	E	
	-		*	B50-6070-00	INSTRUCTION MANUAL(FRENCH)	ME	
	-		*	B50-6071-00	INSTRUCTION MANUAL(SPANISH)	M	
	-		*	B50-6072-00	INSTRUCTION MANUAL(ARABIC)	M	
	-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
	-			B58-0245-33	CAUTION CARD (FTZ)	E	
	-			B58-0375-04	CAUTION CARD		
	-			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
	-			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠	11	1C		E03-0036-05	AC OUTLET	UMUE	
⚠	12	1C		E30-0459-05	AC POWER CORD	E	
⚠	12	1C		E30-0812-05	AC POWER CORD	UMUE	
⚠	12	1C	*	E30-1416-05	AC POWER CORD	T	
	13	1A	*	E30-1438-05	CORD WITH CONNECTOR (13P)		
	14	1A	*	E30-1437-05	CORD WITH CONNECTOR		
	-		*	H01-7082-04	ITEM CARTON CASE	UMUEE	
	-		*	H01-7083-04	ITEM CARTON CASE	T	
	-		*	H10-1824-02	POLYSTYRENE FOAMED FIXTURE		
	-			H25-0223-04	PROTECTION BAG (750X350)		
	-			H25-0232-04	PROTECTION BAG (235X350)		
	17	2B,2C	*	J02-0170-04	FOOT		
⚠	19	2B		J21-3326-05	JACK MOUNTING HARDWARE		
	21	1C		J42-0083-05	POWER CORD BUSHING		
	-			J61-0307-05	WIRE BAND		
	25	2A		K27-1578-04	KNOB (LEVER)		
	27	2A	*	K29-2313-04	KNOB (VOLUME)		
⚠	31	1B	*	L01-6922-05	POWER TRANSFORMER	E	
⚠	31	1B	*	L01-6925-05	POWER TRANSFORMER	UMUE	
⚠	31	1B	*	L01-6927-05	POWER TRANSFORMER	T	
	D		*	N09-1515-05	TAPPING SCREW (3X8)		
				POWER SUPPLY (X00-2372-71)			
	C2 ,3		*	CE04KW1H101M	ELECTRO 100UF 50WV		
	C4			CE04KW1E471M	ELECTRO 470UF 25WV		
	C5			CE04KW1V222M	ELECTRO 2200UF 35WV	TE	
	C5 ,6			CE04KW1V222M	ELECTRO 2200UF 35WV	UMUE	
	C6			C90-1386-05	ELECTRO 2200UF 35WV	TE	
	C8			CE04KW1E470M	ELECTRO 47UF 25WV		
	C9		*	CE04KW1V220M	ELECTRO 22UF 35WV		
	C10		*	CE04KW1E100M	ELECTRO 10UF 25WV	UMUE	
	C10		*	C90-1381-05	ELECTRO 10UF 25WV	TE	
	C11		*	CE04KW1V220M	ELECTRO 22UF 35WV	UMUE	

E: Scandinavia & Europe H:Audio Club K: USA P: Canada
S: South Africa T: England U: PX(Far East, Hawaii)
UE: AAFES(Europe) X: Australia M: Other Areas

⚠ indicates safety critical components.

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Telle ohne **Parts No.** werden nicht geliefert.

	Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
	C11		*	C90-1383-05	ELECTRO 22UF 35WV	TE	
	C13			CE04KW1V100M	ELECTRO 10UF 35WV	UMUE	
	C13		*	C90-1381-05	ELECTRO 10UF 25WV	TE	
	C14			CE04KW1H4R7M	ELECTRO 4.7UF 50WV		
⚠	C15			C91-0023-05	CERAMIC 0.01UF AC250V	UMUE	
⚠	C15			C91-0647-05	CERAMIC 0.01UF P	TE	
	CN1		*	E08-1004-05	RECTANGULAR RECEPTACLE		
	CN2			E08-0503-05	RECTANGULAR RECEPTACLE		
	CN3		*	E08-1303-05	RECTANGULAR RECEPTACLE		
	35	1B		F29-0014-05	INSULATING WASHER		
⚠	-			F29-0041-05	INSULATING COVER	TE	
⚠	F1	1B		F05-1623-05	FUSE (SEMKO) (250V T1.6A)	TE	
⚠	F1	1B		F05-3022-05	FUSE (250V 3A)	UMUE	
⚠	F2	1B		F05-1521-05	FUSE (250V 1.5A)	UMUE	
	39	1B		J13-0041-05	FUSE CLIP	UMUE	
	39	1B		J13-0054-05	FUSE CLIP	TE	
	-			J61-0307-05	WIRE BAND	TE	
⚠	43	1B	*	L01-7002-05	POWER TRANSFORMER	E	
⚠	43	1B	*	L01-7005-05	POWER TRANSFORMER	UMUE	
⚠	43	1B	*	L01-7007-05	POWER TRANSFORMER	T	
	G	1B		N09-0295-05	HEXAGON HEAD BOLT(M3X8,+)		
	R7			RD14GB2E821J	FL-PROOF RD 820 J 1/4W		
	R8			RS14KB3D271J	FL-PROOF RS 270 J 2W		
	R9			RD14GB2E100J	FL-PROOF RD 10 J 1/4W		
⚠	K1	1B		S51-1034-05	MAGNETIC RELAY		
⚠	S1 ,2	2C		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUE	
	D1			DSM1A1	DIODE		
	D3 -11			DSM1A1	DIODE		
	D12 ,13			RD16E(B2)	ZENER DIODE		
	D14 ,15			1SS133	DIODE		
	D14 ,15			1SS176	DIODE		
	IC1			UPC78L05	IC(VOLTAGE REGULATOR/ +5V)		
	Q1 -3			2SC2320(E,F)	TRANSISTOR		
	Q4			2SC2167	TRANSISTOR		
	Q5			2SA957	TRANSISTOR		
	AUDIO (X09-2222-71)						
	D40 -44	2B		B30-0431-05	LED(LN21CPH)		
	C1 -8			CK45FB1H561K	CERAMIC 560PF K	E	
	C9 ,10			CK45FB1H102K	CERAMIC 1000PF K	E	
	C11 -14			CK45FF1H223Z	CERAMIC 0.022UF Z		
	C15			CF92FV1H104J	MF 0.10UF J		
	C16		*	CE04KW1V221M	ELECTRO 220UF 35WV		
	C17			CK45FF1H223Z	CERAMIC 0.022UF Z		
	C18			CE04KW1V221M	ELECTRO 220UF 35WV	UMUET	
	C18		*	C90-1385-05	ELECTRO 220UF 35WV	E	
	C19			CE04KW1V220M	ELECTRO 22UF 35WV		
	C20			CE04KW1H101M	ELECTRO 100UF 50WV		
	C21 ,22			CE04KW1H470M	ELECTRO 47UF 50WV	UMUET	
	C21 ,22		*	C90-1384-05	ELECTRO 47UF 50WV	E	
	C23 ,24			CC45FSL1H390J	CERAMIC 39PF J		
	C25 ,26			CE04KW1C330M	ELECTRO 33UF 16WV		

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PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Destination 仕向	Remarks 備考
C27 ,28			CC45FSL1H101J	CERAMIC 100PF J		
C29 ,30			CC45FSL1H220J	CERAMIC 22PF J		
C31 ,32			CE04KW1C220M	ELECTRO 22UF 16WV	UMUET	
C31 ,32			C90-1378-05	ELECTRO 22UF 16WV		
C33 ,34			C91-0769-05	CERAMIC 0.01UF M		
C35 -38			CF92FV1H104J	MF 0.10UF J		
C41 ,42			C90-1232-05	ELECTRO 3300UF 42WV	UMUET	
C41 ,42		*	C90-1392-05	ELECTRO 3300UF 42WV	E	
C43 ,44			CK45FE2H103P	CERAMIC 0.010UF P		
C45			CE04KW1V220M	ELECTRO 22UF 35WV	UMUET	
C45		*	C90-1383-05	ELECTRO 22UF 35WV	E	
C46			CK45FF1H223Z	CERAMIC 0.022UF Z		
C47			CE04KW1V220M	ELECTRO 22UF 35WV	UMUET	
C47		*	C90-1383-05	ELECTRO 22UF 35WV	E	
C48			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C51 ,52			CK45FF1H223Z	CERAMIC 0.022UF Z		
C53 ,54			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C55 -58			CK45FB1H102K	CERAMIC 1000PF K	E	
C57 ,58			CK45FB1H102K	CERAMIC 1000PF K	UMUET	
C59 -62			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C63 -66			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C67 -70			CE04KW1HR47M	ELECTRO 0.47UF 50WV		
C71 -74			CE04KW1H2R2M	ELECTRO 2.2UF 50WV		
C75 -78			CF92FV1H473J	MF 0.047UF J		
C79 ,80			CE04KW1V100M	ELECTRO 10UF 35WV		
C81 ,82			CK45FF1H223Z	CERAMIC 0.022UF Z		
C83			CF92FV1H473J	MF 0.047UF J		
C84			CC45FSL1H221J	CERAMIC 220PF J		
C85			CK45FB1H332K	CERAMIC 3300PF K	E	
C86			CE04KW1V100M	ELECTRO 10UF 35WV		
C87			CK45FB1H102K	CERAMIC 1000PF K		
C88			CF92FV1H104J	MF 0.10UF J	E	
C89 -92			CK45FF1H103Z	CERAMIC 0.010UF Z	E	
C93 ,94			CC45FSL1H680J	CERAMIC 68PF J		
C95			CE04KW1V100M	ELECTRO 10UF 35WV		
C96			CK45FB1H222K	CERAMIC 2200PF K	E	
51	2A	*	E11-0159-05	PHONE JACK (3P) MIC		
52	2B	*	E11-0160-05	PHONE JACK (7P) PHONES		
53	1C		E13-0229-05	PHONO JACK (2P)		
54	1C		E13-0814-05	PHONO JACK (8P) INPUT		
55	1C		E20-0455-05	SCREW TERMINAL BOARD(4P) SP		
56	1C		E23-0125-05	TERMINAL (GND)		
60	1C		F29-0014-05	INSULATING WASHER		
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL	E	
G	2C		N09-0295-05	HEXAGON HEAD BOLT(M3X8,+)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
R19			RS14DB3D271J	FL-PROOF RS 270 J 2W		
R20			RS14DB3D331J	FL-PROOF RS 330 J 2W		
R25			RD14AB2E820J	FL-PROOF RD 82 J 1/4W		
R28			RS14DB3D122J	FL-PROOF RS 1.2K J 2W		
R29			RD14AB2E330J	FL-PROOF RD 33 J 1/4W		

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R51 -54			RD14AB2E331J	FL-PR@@F RD 330 J 1/4W	E	
R55 ,56			RS14DB3D100J	FL-PR@@F RS 10 J 2W		
R62		*	RS14DB3A391J	FL-PR@@F RS 390 J 1W		
R63		*	RD14AB2E222J	FL-PR@@F RD 2.2K J 1/4W		
R65			RS14DB3D102J	FL-PR@@F RS 1.0K J 2W		
R107,108			RS14DB3A271J	FL-PR@@F RS 270 J 1W		
R123,124			RD14AB2E2R2J	FL-PR@@F RD 2.2 J 1/4W	E	
VR1	2A	*	R13-5075-05	P@TENTI@METER MIC		
VR2	2A	*	R13-5071-05	P@TENTI@METER(100KX2) BALANCE		
VR3 -5	2A	*	R13-3026-05	P@TENTI@METER(10K) T@NE		
VR6	2B	*	R06-4074-05	P@TENTI@METER(50K) V@LUME		
S1 -5	2B	*	S40-1064-05	PUSH SWITCH SELECT@R		
D1 -23			1SS133	DI@DE		
D1 -23			1SS176	DI@DE		
D25 ,26			1SS133	DI@DE		
D25 ,26			1SS176	DI@DE		
D27			DSM1A1	DI@DE		
D28			1SS131	DI@DE		
D28			1SS178	DI@DE		
D34 -37			S3V20	DI@DE		
D38 ,39			RD16E(B2)	ZENER DI@DE		
D45 -52			1SS133	DI@DE		
D45 -52			1SS176	DI@DE		
IC1			LC7818	IC(ELECTR@ CONTR@L SWITCH (2H)		
IC2			NJM2068D-D	IC(@P AMP X2)		
IC2			UPC4570C	IC(@P AMP X2)		
IC3			AN6556	IC(@P AMP X2)		
Q1 ,2			2SC2320(E,F)	TRANSISTOR		
Q3 ,4			2SC945(A)(Q)	TRANSISTOR		
Q5 ,6			2SC2003(L,K)	TRANSISTOR		
Q7 ,8			2SA954(L,K)	TRANSISTOR		
Q9 ,10		*	2SC1985(@,P,Y)	TRANSISTOR		
Q11 ,12		*	2SA770(@,P,Y)	TRANSISTOR		
Q13			2SC2320(E,F)	TRANSISTOR		
Q16			2SC2060	TRANSISTOR		
Q17			2SA733(A)(Q,P)	TRANSISTOR		
RPEAMP (X85-1040-10)						
C1 ,2			CE04FW1H3R3M	ELECTR@ 3.3UF 50WV		
C3 ,4			CC45FSL1H221J	CERAMIC 220PF J		
R11 ,12		*	RD14AB2E271J	FL-PR@@F RD 270 J 1/4W		
R13 ,14			RD14AB2E181J	FL-PR@@F RD 180 J 1/4W		
Q1 -4			2SA992(F,E)	TRANSISTOR		
Q5 -8			2SC1845(F,E)	TRANSISTOR		

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SPECIFICATIONS

AUDIO SECTION [OVERALL CHARACTERISTICS]
TUNER, TAPE to SPKR (Partially PHONO to SPKR)
Continuous Average Power Output
30 watts* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.06% total harmonic distortion.

Maximum continuous output power (IEC)
from 60 Hz to 12,500 Hz, 0.7% THD
at 8 ohms .....32 W + 32 W
Total Harmonic Distortion (20 Hz to 20,000 Hz)
AUX – Speaker (8 ohms)/POWER in – Speaker (8 ohms)
At rated output 0.06%
At 1/2 rated output 0.04%
Intermodulation Distortion
(60 Hz:7 kHz = 4:1) .....0.04% at rated output into 8 ohms
Frequency Response
Overall [AUX – SPEAKER] ...10 Hz to 50 kHz, ±3 dB
Signal-to-Noise Ratio (IHF-A) at rated output
Tuner, AUX, Tape play .....93 dB
Mic .....64 dB
Signal-to-Noise ratio at unweighted, 50 mW output
Tuner, AUX, Tape play .....60 dB (DIN)
Output Level/Impedance
Tape REC (Pin) .....150 mV/3.3 k ohms

Tone Control
Super Bass ..... ±10 dB at 30Hz
Bass ..... ±10 dB at 200 Hz
Treble ..... ±10 dB at 10 kHz
Damping Factor .....40, at 50 Hz
Input Sensitivity/Impedance
Phono MM .....150 mV/47 k ohms
Tuner, AUX., Tape play .....150 mV/47 k ohms
Mic .....1.3 mV/47 k ohms
Channel Separation (DIN) at 1,000 Hz
AUX (Terminated with 47 kohms + 250 pF) .....45 dB

General
Power Requirement .....AC 240V, 50 Hz
Power Consumption (IEC) .....160 W
Dimensions (W × H × D) .....340 × 84 × 366 mm
Weight .....Net 5.5 kg

Note :
We follow a policy of continuous advancements in developments. For this reason specifications may be changed without notice.

Note :
Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

TRIO-KENWOOD CORPORATION
Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD ELECTRONICS
DIVISION OF KENWOOD U.S.A. CORPORATION
1315 E. Watsoncenter Rd., Carson, California 90745, U.S.A.
75 Seaview Drive, Secaucus, New Jersey 07094, U.S.A.

TRIO-KENWOOD CANADA INC.,
1070 Jayson Court, Mississauga, Ontario, Canada L4W 2V5

TRIO-KENWOOD ELECTRONICS, N.V.
Leuvensesteenweg 504 B-1930 Zaventem, Belgium

TRIO-KENWOOD ELECTRONICS GmbH
Rembrücker Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.
5, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD (AUSTRALIA) PTY. LTD. (INCORPORATED IN N.S.W.)
4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong

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